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THE REA LINEMAN

RURAL ELECTRIFICATION ADMINISTRATION

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COLLAPSE OF OLD POLE INJURES LINEMAN

In some areas co-op lines have been acquired from power companies and are operated and maintained as part of the co-op system. These acquired lines have usually been in use for many years and often are not in as good shape as co-op lines built since 1935. It is necessary to take added precaution when working on such lines. The following accident occurred on a section of acquired line which was being removed:

The co-op crew proceeded to pole A, the energized pole, and disconnected the wires at this point. They were going to take down all the wire between pole A and pole C. Pole C was a dead end pole of buck-arm construction with five-foot arms.

After removing the wires from pole A, the men moved the wires from each pole as they came to them on down the line toward point C. This procedure placed stress on each pole as they advanced down the line. All of the poles were in sufficiently good condition to withstand this stress with the exception of pole C.

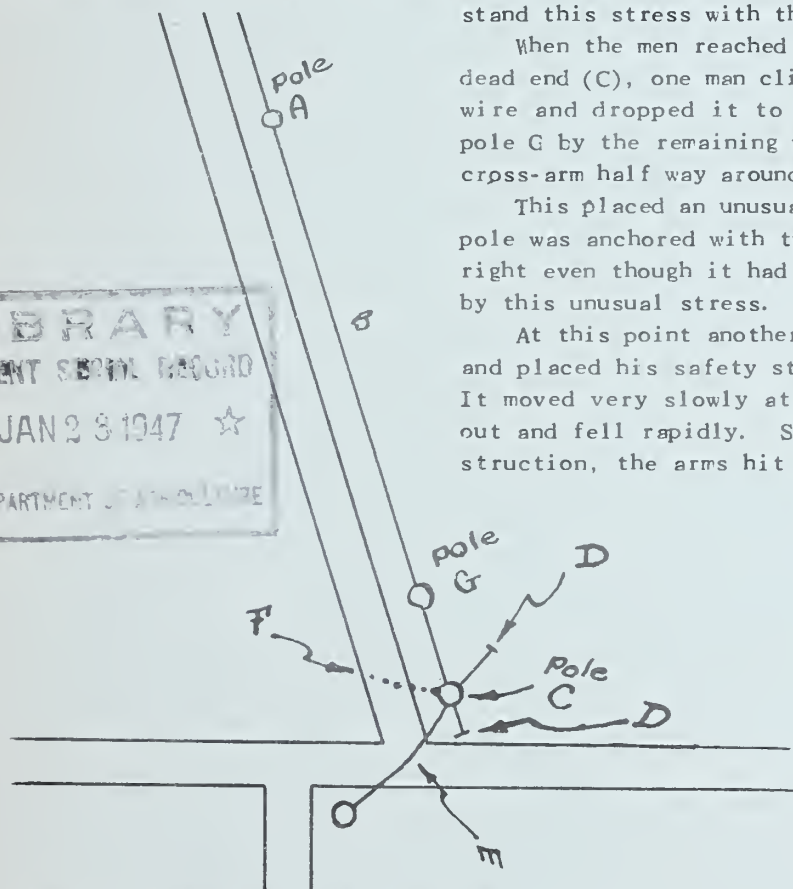
When the men reached pole G, the last pole before the dead end (C), one man climbed pole G and untied the field wire and dropped it to the ground. The stress put on pole G by the remaining wires was sufficient to pull the cross-arm half way around this pole.

This placed an unusual strain on dead end pole C. The pole was anchored with two anchors (D) which held it upright even though it had been weakened at the ground line by this unusual stress.

At this point another lineman climbed dead end pole C and placed his safety strap around the top of the pole. It moved very slowly at first and then suddenly kicked out and fell rapidly. Since this pole was buck-arm construction, the arms hit the road and supported the pole

so that it came to rest with the top approximately 2½ feet above the road surface. For this reason the crushing weight of the pole did not injure the lineman's body.

However, the force of the sudden stop threw the lineman's head against the road. This force was great enough to make a hole in the back of his head and so injure him that it was impossible to take X-rays as late as two days after the accident occurred. For that reason it was impossible to determine the full extent of his injury.



Removing of acquired line from pole A to pole C. Cross-arm Construction - cedar poles.

A.- Hot pole. B.- Section of line to be removed. C.- Dead end pole 35'. D.- Anchors and Guys. E.- Slack span. F.- Pole fell in this position. G. Field wire removed from this pole.

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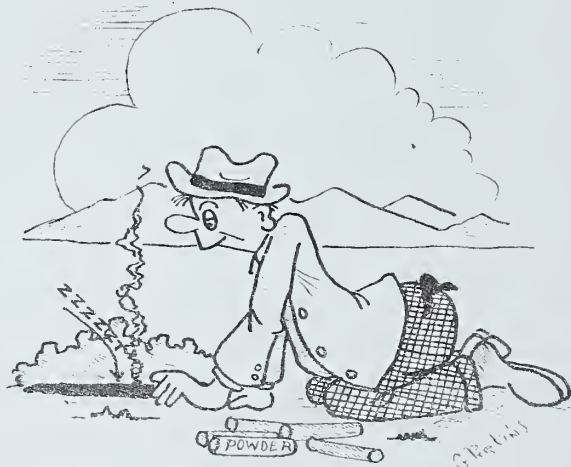
NO, BUT DINA MIGHT!

- Editorial -

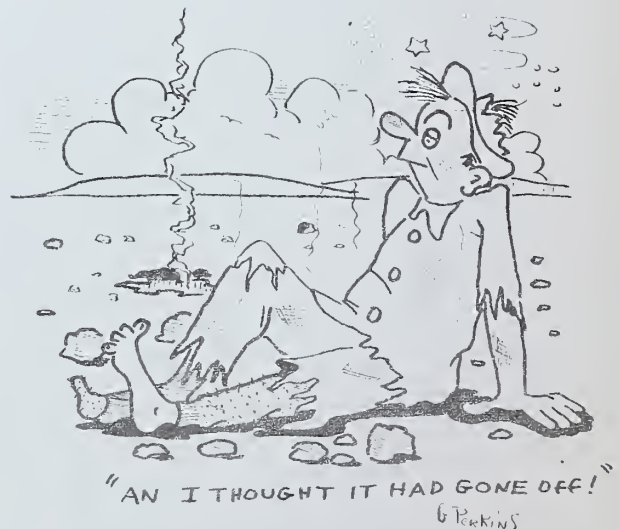
We have all heard the old wheeze, "If the moon had a baby, would the sky-rock-it?" and the stock answer, "No, but dina-mite."

Dynamite has a reputation for rocking, shattering and tearing apart, in a manner not calculated to "win friends and influence people" when it goes off in the midst of a busy community. Those who are left, do not like it.

In fact the distaste for such happenings is so pronounced that most States have passed legislation governing the use, storage, and transportation of explosives within their borders. Cooperatives who use, store and haul explosives should make certain that their practices conform to state laws. Penalties for violation are usually stiff and may be expensive.



On page 4 of this issue is an account of a dynamite accident and a list of suggestions taken from the F. I. du Pont De Nemours Company's 'Blasters' Handbook', Wilmington 98, Del. No doubt the recommendations of this manufacturer and those of other makers of explosives differ somewhat from the method many cooperatives are using to store, transport and handle explosives. We believe that anyone using explosives should, besides familiarizing themselves with their State law, also obtain a handbook from the manufacturer of the explosive that they use, and comply with its recommendations. After all, the manufacturer made the explosive and who is a better authority on how to use, store and transport it?



A FEW DECEMBER ACCIDENTS

A trucking company had a contract to move a house to another part of town. The crew attempted to move the house under a co-op's 12,470 V power line. They did not notify the cooperative. One of the partners of the trucking company felt that they would not clear the line. He climbed on top of the house, came in contact with the neutral wire with his hands and, as he straightened up, came in contact with one of the phase wires. The phase wire touched the back of his neck, burning a large hole. He also had bad burns on his hands and wrists. He fell clear of the line. It would not have touched any of the wires. The partner came to within a few minutes and was taken to a hospital. His condition was critical.

Lineman's helper was working on a load of creosoted pine poles. As he cut the band from the top of a carload of poles, the poles flew apart. Helper's left foot and leg were bruised by the poles. Lost time - ten days.

Laborer was installing house knobs. He fell from the roof, spraining his left wrist.

Cooperative's driver had a trailer load of poles. The brakes on the car failed, and driver could not shift gears because load of poles increased speed too much. He gave orders to jump, leaving truck to collide with bank of road. Driver injured his back when jumping.

Employee was trimming one tree, while 50 feet away another employee chopped down a tree. The tree fell on the employee who was doing the tree trimming. A 2½" splinter entered his cheek near the ear. He lost six days' time.

Employee was trimming a tree in the snow. Axe glanced off and hit him on the left heel causing a 3- inch cut.

Employee was chopping brush when his axe caught on a limb. He dropped his axe on his right foot. Lost time - 10 days.

Lineman was carrying pole with tongs. Tongs slipped and pole fell on his foot, breaking large toe on left foot.

Employee was filling truck with gasoline at service station. Explosion occurred in underground storage tanks of gas station. Force of explosion threw employee into the air and he landed on tank truck completing



delivery of tankload of gasoline to service station. Employee suffered from shock and two broken ribs.

Employee was climbing a tree. Axe slipped and cut his left ankle, requiring 24 stitches.

Cooperative's truck was pulling a loaded trailer. They came to a bad dip in the road. The trailer twisted and the pole acting as a tong on the trailer was broken. Trailer continued traveling for a short distance, swerving to the right of the road and running into a parked car, a mailbox and a fence. The projecting poles tore down the mailbox and knocked about 25 palings off the fence. The car was damaged to the extent of \$300.00

Employees were setting poles. One man picked up a pike, just as another man raised his hand and hit the point of the pike. No lost time.

Employee tripped while wearing climbers. Spur of climbers punctured shoe and penetrated the flesh approximately ½ inch on the inside of his right heel. Time lost - one day.

Employee was standing on end of pole pile helping load poles on wagon. He slipped on frosty treated poles and fell a distance of approximately nine feet, injuring end of spine.

FAULTY STORAGE CAUSES BLAST

The following accident did not occur on an REA co-op system but to a contractor doing work for a co-op. The contractor had located his trucks and other equipment on the edge of town. Material was kept inside the warehouse building but trucks and equipment were stored in the yard adjacent to this building.

On the evening of the accident, the line crew drove their trucks into the yard near the warehouse building to leave them for the night. Later that evening someone discovered that one of these trucks was on fire. The Fire Department was called and had the fire well under control when a severe explosion occurred within one of the trucks. This explosion shook surrounding buildings and broke out a number of windows. It also threw gasoline against the warehouse building, which immediately caught on fire. Fortunately, no one was injured and the fire was soon put out. Investigation showed that one of the line crews had stored eight or ten sticks of dynamite in one of the trucks. The fire caused this dynamite to explode.

Dynamite is composed of nitroglycerin and other explosive ingredients. The percentage figures for the different types of dynamite indicate what percent of nitroglycerin by weight the particular dynamite contains. Dynamite is reasonably safe if stored, transported and handled in the proper way. There is no guarantee, however, that it will not inadvertently go off under certain conditions. For that reason the manufacturers of dynamite have outlined safety precautions and minimum standards which should be followed very carefully by people who use dynamite.

It has often been said that familiarity breeds contempt. This is particularly so in the case of dynamite. Dynamite should not be kept or stored where children or unauthorized persons or animals can have access to it. Dynamite should not be stored in dwellings, tool rooms, boxes or in a building in which people ordinarily work. The storage place should not be so con-

structed as to allow sunshine to come in direct contact with the dynamite. Dynamite, detonators, fuses and squibs should be kept in a well - ventilated, dry condition.

Absorption of moisture in many cases results in misfires or incomplete detonation. In some states the location in which dynamite may be stored is restricted by law. Many cities have ordinances covering this situation. The American Table of Distances specifies the quantity of explosive that may be safely stored at various distances from inhabited buildings, railways and public highways. Where no state or local ordinance applies, it is recommended that these distances be observed in constructing a special magazine for storing explosives. Quantities of explosives not more than 50 pounds in weight should be housed at a distance of at least 73 feet from an inhabited building if proper barricades are erected between the building and magazine. If no barricades are available, the distance should be double and the magazine located 146 feet away.

For storage of from 50 to 100 pounds of explosive, the recommended distance is 120 feet with proper barricades, or 240 feet if no barricades are present. For the storage of 100 to 200 pounds the distance is 180 feet if proper barricades are present or 360 feet if no barricades are used.

There are many instances where dynamite is kept in open boxes in the co-op warehouse, which in some cases is a part of the office building. It is noted from the above, that the manufacturer who makes dynamite recommends that storage of even small quantities of 50 pounds or less should be located between 73 and 146 feet away from an inhabited building. It is highly recommended that all those who use dynamite procure a handbook from the manufacturer of the product which they use.

The REA Lineman is published monthly in the interest of safety for employees of PEA-financed systems. Vol. VII, No. 1, Jan., 1947.

David A. Fleming, Editor